USER'S MANUAL

Of

Intel G41 Express Chipset

&

Intel ICH7 / ICH7R Chipset

Based

M/B for LGA 775 Quad Core Ready

Intel Core Processor Family

No. G03-NAF91-F

Rev: 1.0

Release date: April，2011

Trademark:

*** Specifications and Information contained in this documentation are furnished for information use only, and are subject to change at any time without notice, and should not be construed as a commitment by manufacturer.**

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CAUTION Environmental Safety Instruction

- Avoid the dusty, humidity and temperature extremes. Do not place the product in any area where it may become wet.
- 0 to 40 centigrade is the suitable temperature. (The figure comes from the request of the main chipset)
- Generally speaking, dramatic changes in temperature may lead to contact malfunction and crackles due to constant thermal expansion and contraction from the welding spots' that connect components and PCB. Computer should go through an adaptive phase before it boots when it is moved from a cold environment to a warmer one to avoid condensation phenomenon. These water drops attached on PCB or the surface of the components can bring about phenomena as minor as computer instability resulted from corrosion and oxidation from components and PCB or as major as short circuit that can burn the components. Suggest starting the computer until the temperature goes up.
- The increasing temperature of the capacitor may decrease the life of computer. Using the close case may decrease the life of other device because the higher temperature in the inner of the case.
- Attention to the heat sink when you over-clocking. The higher temperature may decrease the life of the device and burned the capacitor.

Environmental Protection Announcement

Do not dispose this electronic device into the trash while discarding. To minimize pollution and ensure environment protection of mother earth, please recycle.

USER'S NOTICE

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Manual Revision Information

Reversion	Revision History	Date
1.0	First Edition	April, 2011

Item Checklist

- ☑ Motherboard
- ☑ User's Manual
- ☑ DVD for motherboard utilities
- ☑ Cable(s)
- ☑ I/O Back panel shield

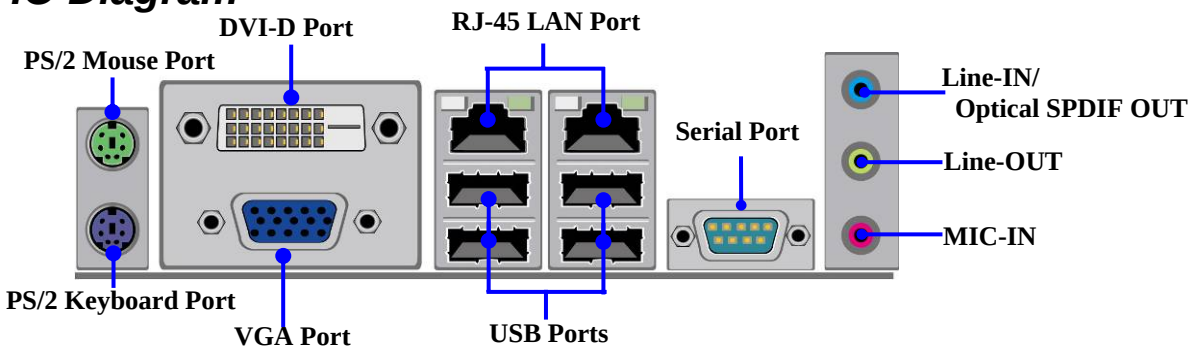
Chapter 1
Introduction of the Motherboard

1-1 Specification

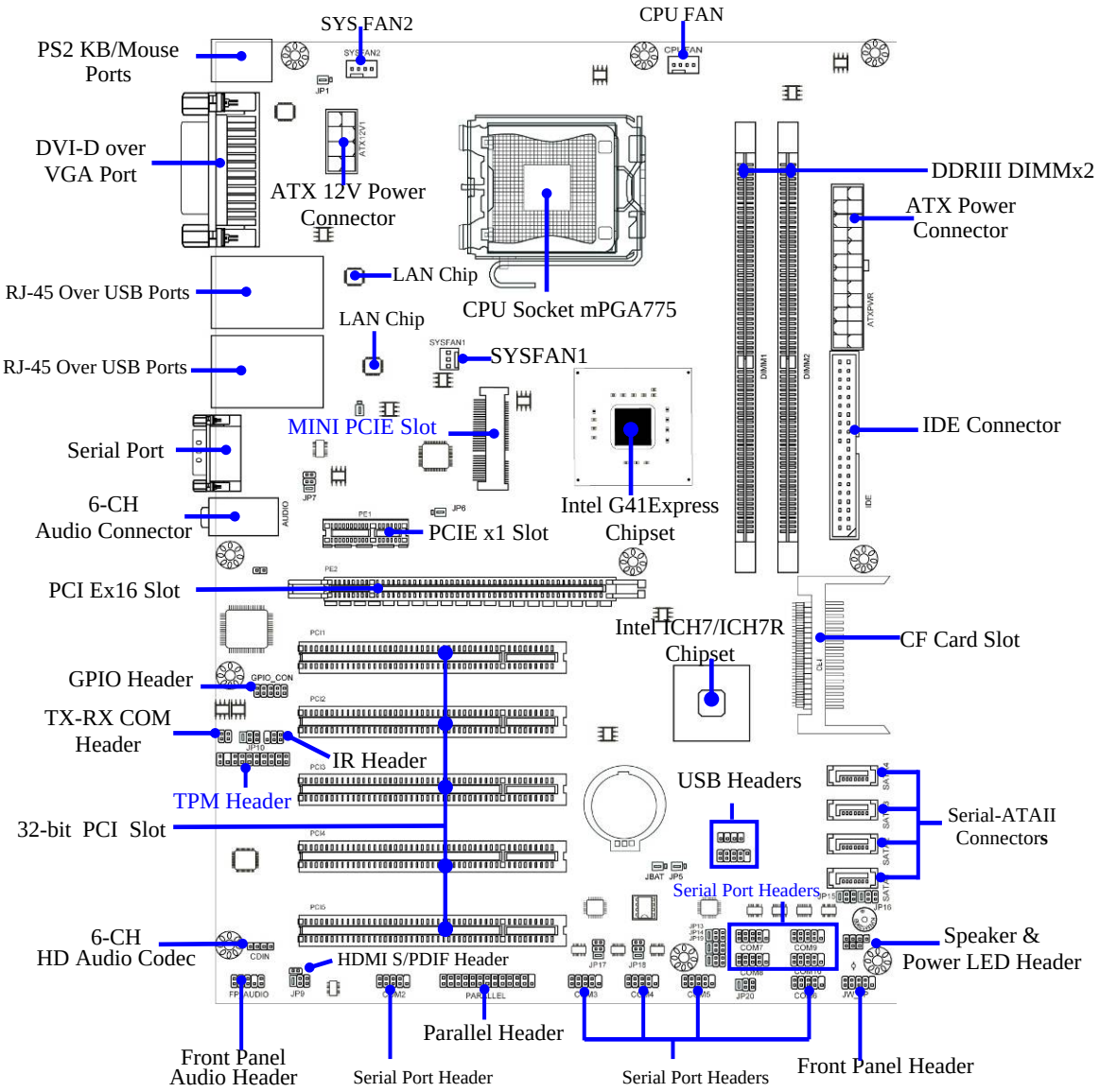
Spec	Description
Design	● ATX form factor
Chipset	● Intel G41 Memory Controller Hub (MCH) Chipset ● Intel ICH7/ICH7R Chipset
CPU Socket (LGA775)	● Intel® Socket 775 Core™2 Quad/Core™2 Extreme/Core™2 Duo/ Pentium® dual-core/Celeron® dual-core /Celeron® Processors ● Support 45nm CPU * *for detailed CPU support information please visit our website*
Memory Slot	● 240-pin DDRIII RAM module socket x 2 supporting two DDRIII 800 /1066MHz RAM Module expandable to 16 GB (Maximum) ● Support dual-channel function
Expansion Slots	● 5 pcs *32-bit PCI slot ● 1 pcs* PCI-Express 2.0 x16 slot by 16 lane ● 1 pcs* PCI-Express 2.0 x1 slot ● 1 pcs* Mini-PCIE slot
Integrate IDE, CF card slot and Serial ATA2	● Support one IDE hard disk connector that deliver the data transfer rate up to 100 MB/s ● Support four serial ATA2 ports ● 1 pcs* CF card slot
Dual LAN Chip	● Integrated dual Gigabit LAN chip ● Supports Fast Ethernet LAN function provide10Mb/100Mb/ 1Gb /s data transfer rate
HD Audio Chip	● 6-channel HD Audio Codec integrated ● Audio driver and utility included
BIOS	● AMI 8MB DIP Flash ROM
Multi I/O	● PS/2 keyboard and PS/2 mouse connectors ● DVI-D Connector x1 ● D-Sub 15-pin VGA Connector x1 ● USB 2.0 connector x 4 ● USB 2.0 headers x2 ● RJ-45 LAN connector x2 ● Serial port connector x1 ● Audio connector x1 ● Front panel header x1 ● PER LED header x1 ● Speaker header x1 ● Front panel audio header x1 ● CDIN header x1 ● GPIO header x1 ● TPM 1.2 header x1 ● IR header x1 ● HDMI-SPDIF header x1 ● Parallel header x1 ● TX-RX COM1 header x 1 ● Serial port header x 9

1-2 Layout Diagram

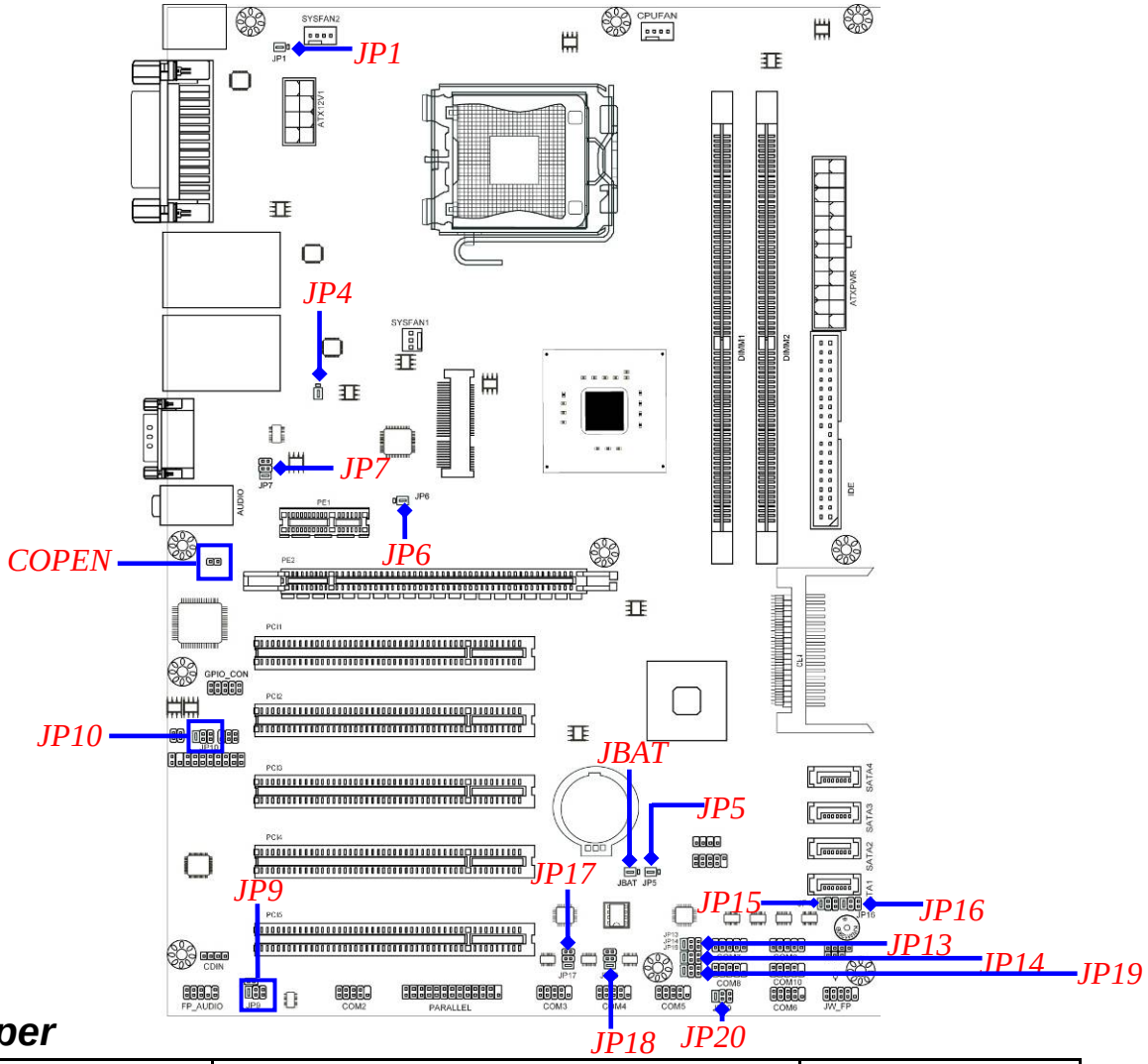
Rear IO Diagram



Motherboard Internal Diagram



Motherboard Jumper Position



Jumper

Jumper	Name	Description
JBAT	CMOS RAM Clear Function Setting	3-pin Block
JP1	K/B,UL2 Power on Function Setting	3-pin Block
JP4	UL1 Power on Function Setting	3-pin Block
JP5	USB 3/4 Power On Function Setting	3-pin Block
JP6	Mini PCI-E Power VCC3.3V/3.3V SB	3-pin Block
JP7	COM1 Pin9 Function Select	6-pin Block
JP9	COM2 Pin9 Function Select	6-pin Block
JP10	COM2 RS232/485/422 Function Select	6-pin Block
JP17	COM3 Pin9 Function Select	6-pin Block
JP18	COM4 Pin9 Function Select	6-pin Block
JP19	COM5 Pin9 Function Select	6-pin Block
JP20	COM6 Pin9 Function Select	6-pin Block
JP13	COM7 Pin9 Function Select	6-pin Block
JP14	COM8 Pin9 Function Select	6-pin Block
JP15	COM9 Pin9 Function Select	6-pin Block
JP16	COM10 Pin9 Function Select	6-pin Block

COPEN	Case Open Message Display Function	2-pin Block

Connectors

Connector	Name	Description
KB	PS2 Keyboard& Mouse Connectors	6-pin Female
VGA1	Video Graphic Attach Connector	15-pin Female
DVI1	DVI Port Connector	24-pin Connector
USB from UL1/UL2	USB Port Connectors	4-pin Connectors
LAN from UL1/UL2	RJ-45 LAN Connectors	8-pin Connectors
COM1	Serial Port COM Connector	9-pin Connector
AUDIO	Audio Connector	3-phone Jack
ATXPWR	ATX Power Connector	24-pin Block
ATX12V1	ATX 12V Power Connector	8-pin Block
IDE	IDE Hard Disk Drive header	44-pin block
SATA1/SATA2/ SATA3/SATA4	Serial ATAII Connectors	7-pin Connector

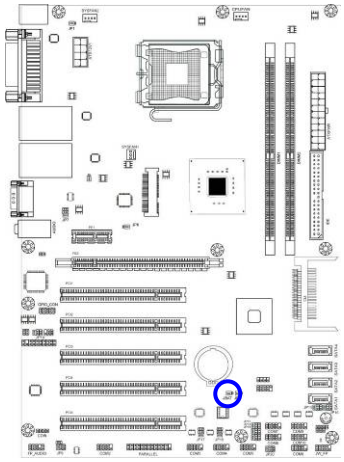
Headers

Header	Name	Description
FP_AUDIO	Front panel audio Headers	9-pin block
CDIN	CD Audio-In Header	4-pin Block
SPEAK	Speaker Header	4-pin Block
PWRLED	Power LED	3-pin Block
JW_FP (Front Panel Header)	PWR LED/ HD LED/ /Power Button /Reset	9-pin Block
USB3	USB Headers	4-pin Block
USB4	USB Headers	9-pin Block
CPUFAN,SYSFAN2	FAN Speed Headers	4-pin Block
SYSFAN1	FAN Speed Header	3-pin Block
GPIO_CON	GPIO Header	10-pin Block
COM2/3/4/5/6/7/8/9/10	Serial Port Header	9-pin Block
TX-RXCOM1	RS 232/422/485 port headers	4-pin block
IR	IR infrared module Headers	5-pin Block
HDMI_SPDIF	SPDIF Out header	2-pin Block
TPM	TPM Header	19-pin Block

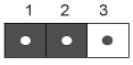
Chapter 2
Hardware Installation

2-1 Jumper Setting

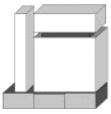
(1) Clear CMOS (3-pin): JBAT



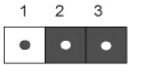
JBAT



1-2 Closed: Normal



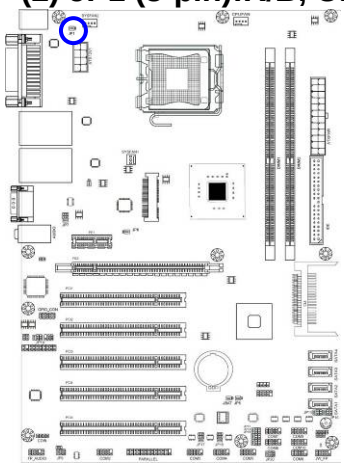
JBAT



2-3 Closed: Clear CMOS

CMOS RAM Clear Setting

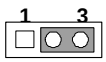
(2) JP1 (3-pin):K/B, UL2 Power On Function Setting



JP1

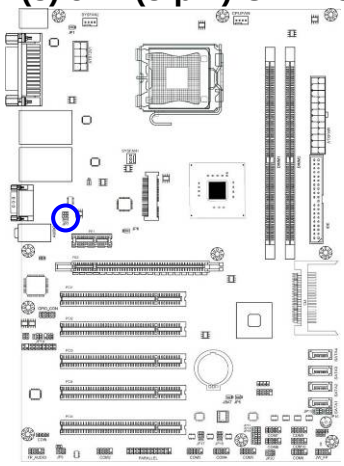
1-2 closed : K/B, UL2 Header POWER-ON Disabled(default)

JP1

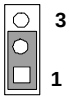


2-3 closed: K/B, UL2 Header POWER-ON Enabled

(3) JP4 (3-pin):UL1 Power on Function Setting

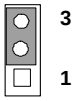


JP4



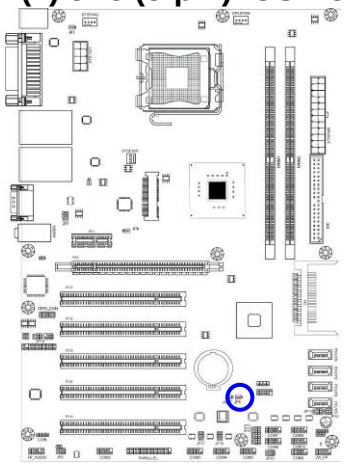
1-2 Closed: UL1 POWER-ON Disabled (default)

JP4



2-3 closed: UL1 POWER-ON Enabled

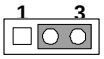
(4) JP5 (3-pin): USB 3/4 Power On Function Setting



JP5

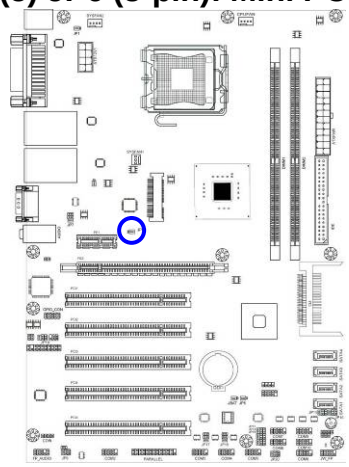
1-2 closed : USB 3/4 Header POWER-ON Disabled(default)

JP5

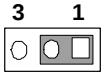


2-3 closed: USB 3/4 Header POWER-ON Enabled

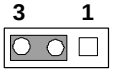
(5) JP6 (3-pin): Mini PCI-E Power VCC 3.3V/3.3 VSB Function Select



JP6

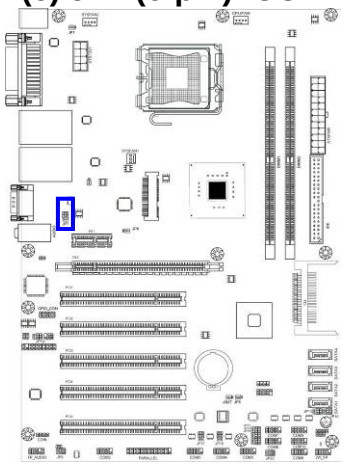


1-2 closed ： MINI PCI-E
VCC= 3.3V



2-3 closed ： MINI PCI-E
VCC= 3.3VSB

(6) JP7 (6-pin): COM1 Pin9 function select



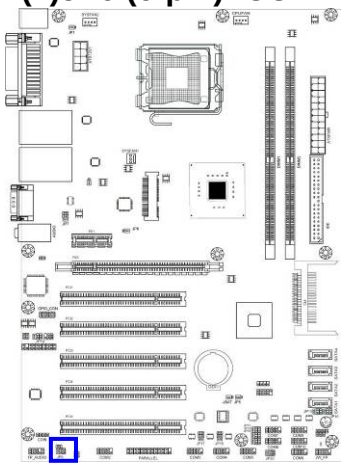
JP7

1-2 closed: RS232

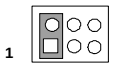
3-4 closed : +12V

5-6 closed : +5V

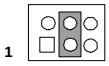
(7)JP9 (6-pin): COM2 Pin9 function select



JP9



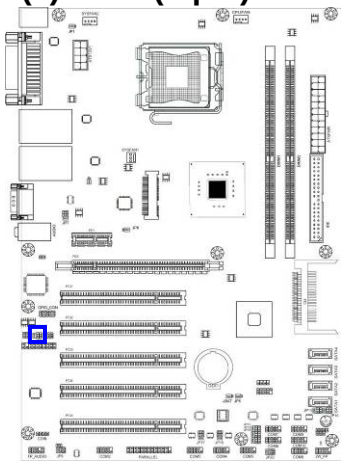
1-2 closed: RS232



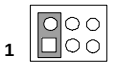
3-4 closed : +12V

5-6 closed : +5V

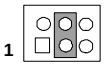
(8) JP10 (6-pin): COM2 Port RS232/485/422 Function Select



JP10



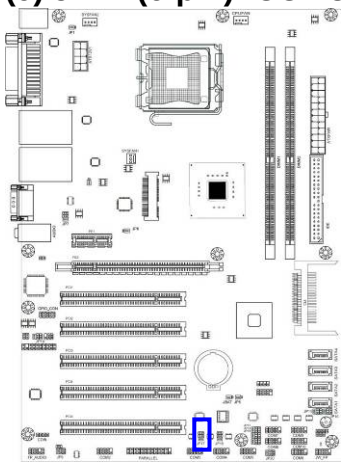
1-2 closed: RS232



3-4 closed : RS485

5-6 closed : RS422

(9) JP17 (6-pin): COM3 Pin9 function select



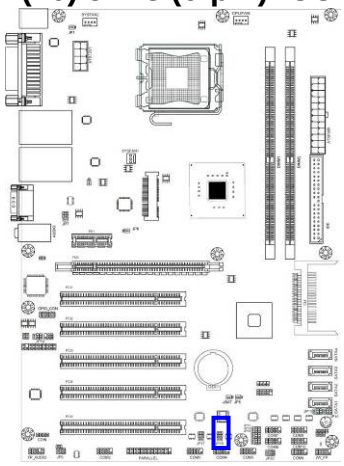
JP17

1-2 closed: RS232

3-4 closed : +12V

5-6 closed : +5V

(10) JP18 (6-pin): COM4 Pin9 function select



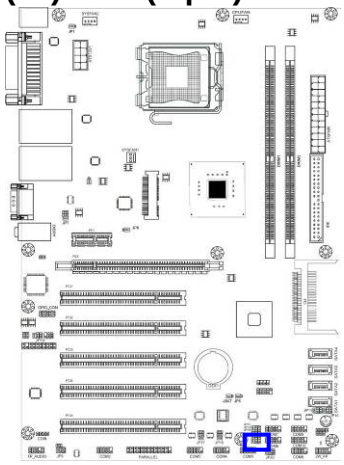
JP18

1-2 closed: RS232

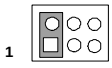
3-4 closed : +12V

5-6 closed : +5V

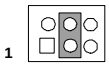
(11)JP19 (6-pin): COM5 Pin9 function select



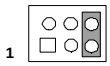
JP19



1-2 closed: RS232

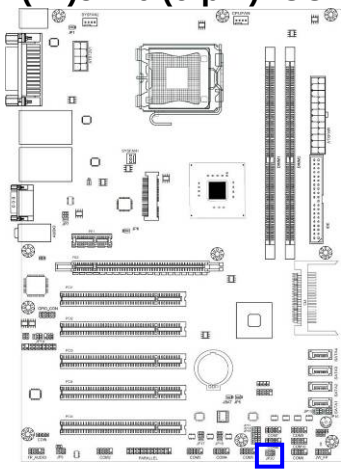


3-4 closed : +12V

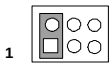


5-6 closed : +5V

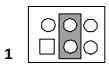
(12)JP20 (6-pin): COM6 Pin9 function select



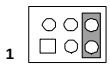
JP20



1-2 closed: RS232

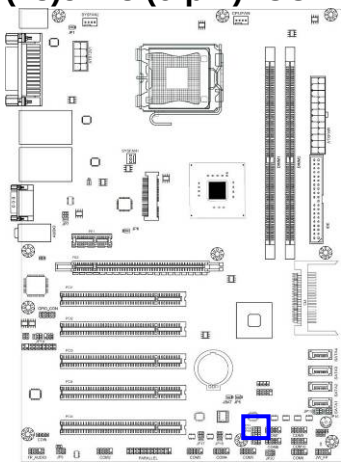


3-4 closed : +12V

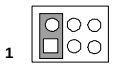


5-6 closed : +5V

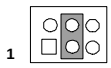
(13)JP13 (6-pin): COM7 Pin9 function select



JP13



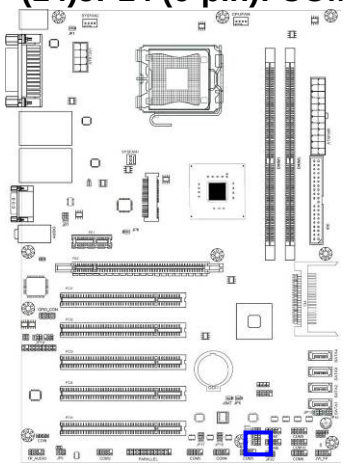
1-2 closed: RS232



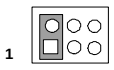
3-4 closed : +12V

5-6 closed : +5V

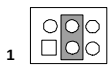
(14)JP14 (6-pin): COM8 Pin9 function select



JP14



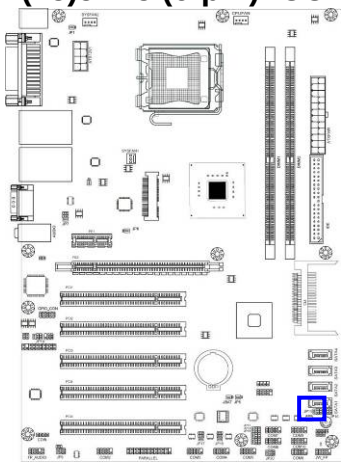
1-2 closed: RS232



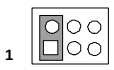
3-4 closed : +12V

5-6 closed : +5V

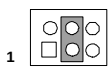
(15)JP15 (6-pin): COM9 Pin9 function select



JP15



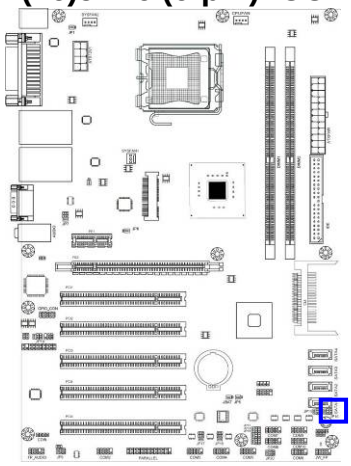
1-2 closed: RS232

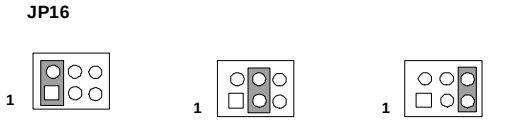


3-4 closed : +12V

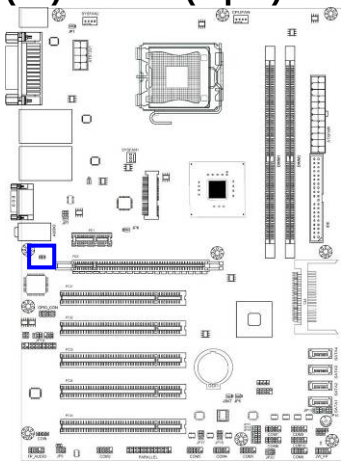
5-6 closed : +5V

(16)JP16 (6-pin): COM10 Pin9 function select





(17)COPEN (2-pin): Case Open Message Display function select



COPEN

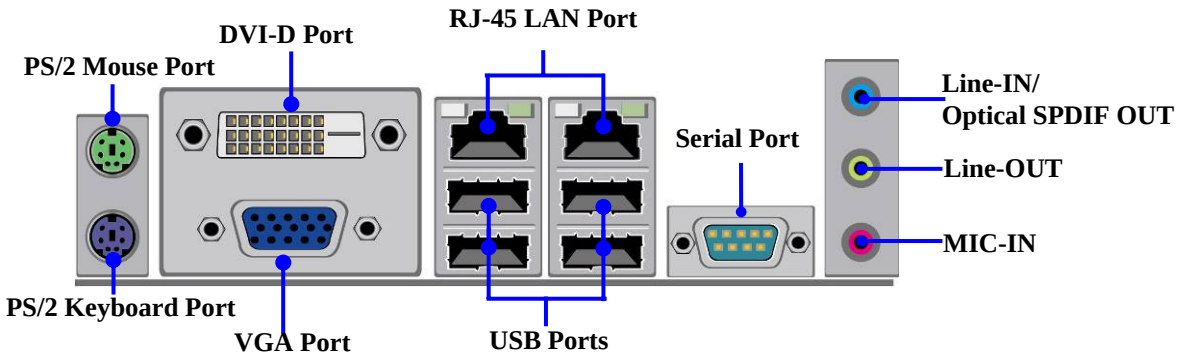
1-2 Open： Normal **1-2 Short： Case Open**

Case Open Display Function

Pin 1-2 shorted: Case open display function enabled. In this case if your case is removed, next time when you restart your computer a message will be displayed onscreen to inform you of this.

2-2 Connectors and Headers

2-2-1 Rear I/O Back Panel Connectors



(1) PS/2 Mouse & PS/2 Keyboard Connector: KB

The connectors are for PS/2 keyboard (Purple) and PS/2 Mouse (Green).

(2) D-Sub 15-pin Connector: VGA1

VGA connector is the 15-pin D-subminiature female connector; it is for the display devices, such as the CRT monitor, LCD monitor and so on.

(3) Digital Visual Interface: DVI1

This interface standard designed to maximize the visual quality of digital display devices such as flat panel LCD computer displays and digital projectors.

(4) USB Port connector: USB ports from UL1/ UL2

The connectors are 4-pin connector that connects USB devices to the system board.

(5) LAN Port connectors: RJ45 LAN ports from UL1/UL2

The connector is standard RJ45 connector for Network. It supports 10/100/1000Mbps data transfer rate.

(6) Serial port connector: COM1

COM1 is a 9-pin serial port connector.

(7) Audio Line-In, Lin-Out connector: AUDIO

These Connectors are 3 Phone-Jack for LINE-OUT, LINE-IN, MIC audio connections.

Line-in: (BLUE)	Audio input to sound chip
Line-out: (GREEN)	Audio output to speaker
MIC: (PINK)	Microphone Connector

2-2-2 Motherboard Internal Connectors

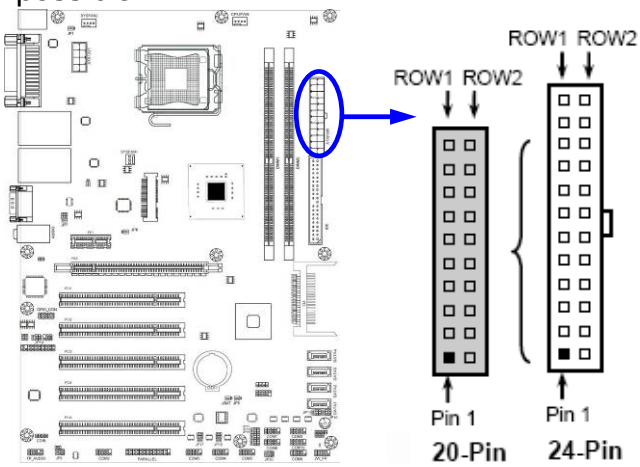
(1) Power Connector (24-pin block): ATXPWR

ATX Power Supply connector: This is a new defined 24-pins connector that usually comes with ATX case. The ATX Power Supply allows using soft power on momentary switch that connect from the front panel switch to 2-pins Power On jumper pole on the motherboard. When the power switch on the back of the ATX power supply turned on, the full power will not come into the system board until the front panel switch is momentarily pressed. Press this switch again will turn off the power to the system board.

** We recommend that you use an ATX 12V Specification 2.0-compliant power supply unit (PSU) with a minimum of 350W power rating. This type has 24-pin and 4-pin power plugs.

** If you intend to use a PSU with 20-pin and 4-pin power plugs, make sure that the 20-pin power plug can provide at least 15A on +12V and the power supply unit has a minimum power rating of 350W. The system may become unstable or may not boot up if the power is inadequate.

** If you are using a 20-pin power plug, please refer to Figure1 for power supply connection. Power plug form power supply and power connectors from motherboard both adopt key design to avoid mistake installation. You can insert the power plug into the connector with ease only in the right direction. If the direction is wrong it is hard to fit in and if you make the connection by force if is possible.



PIN	ROW1	ROW2
1	3.3V	3.3V
2	3.3V	-12V
3	GND	GND
4	5V	Soft Power On
5	GND	GND
6	5V	GND
7	GND	GND
8	Power OK	-5V
9	+5V (for Soft Logic)	+5V
10	+12V	+5V
11	+12V	+5V
12	+3V	GND

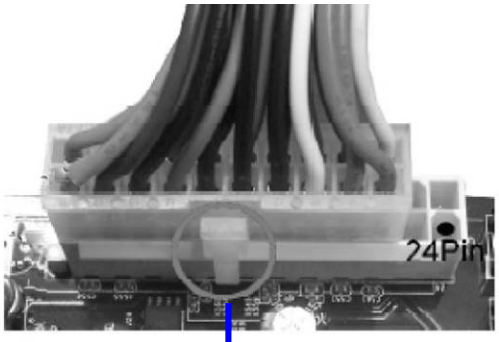


Figure1：20-pin power plug

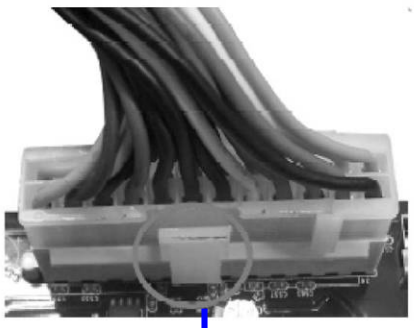
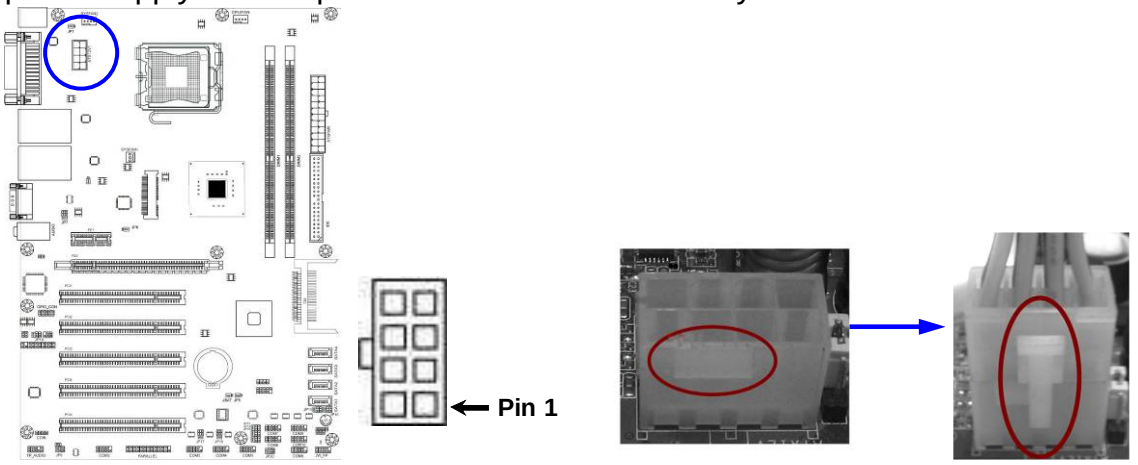


Figure 2：24-pin power plug

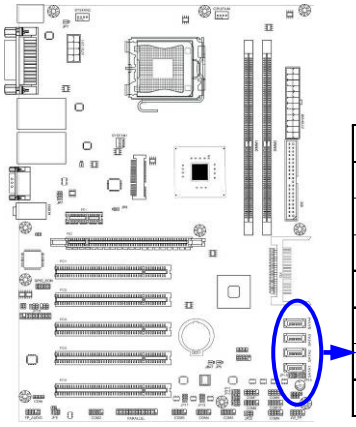
(2) ATX 12V Power Connector (8-pin block) : ATX12V1

This is a new defined 8-pin connector that usually comes with ATX Power Supply. The ATX Power Supply which fully supports AMD AM3 processor must including this connector for support extra 12V voltage to maintain system power consumption. Without this connector might cause system unstable because the power supply can not provide sufficient current for system.

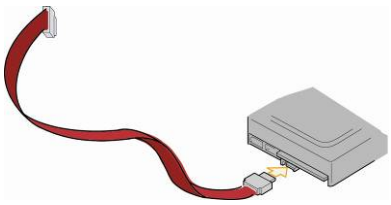


(3) Serial-ATAII Port connector: SATA1/SATA2/SATA3/SATA4

This connector supports the provided Serial ATA3 hard disk cable to connecting the motherboard with SATA2 hard disk.



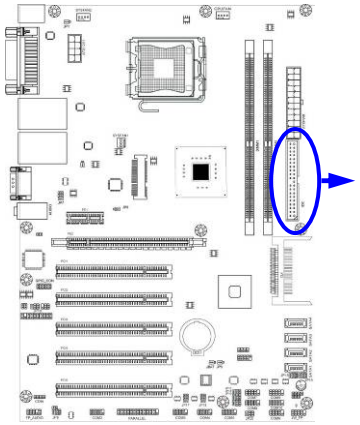
Pin No.	Defnition
1	GND
2	TXP
3	TXN
4	GND
5	RXN
6	RXP
7	GND

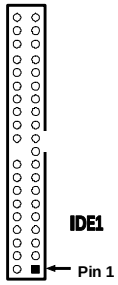


(4) Primary IDE Connector (40-pin block): IDE

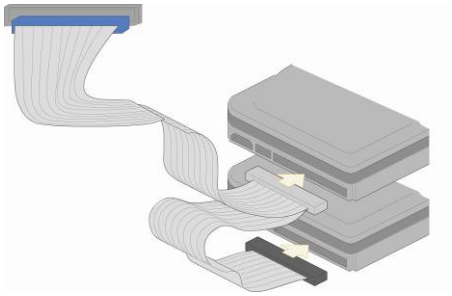
This connector supports the provided IDE hard disk ribbon cable. After connecting the single plug end to motherboard, connect the two plugs at other end to your hard disk(s). If you install two hard disks, you must configure the second drive to Slave mode by setting its jumpers accordingly. Please refer to the documentation of your hard disk for the jumper settings.

- Two hard disks can be connected to each connector. The first HDD is referred to as the “Master” and the second HDD is referred to as the “Slave”.
- For performance issues, we strongly suggest you don’t install a CD-ROM or DVD-ROM drive on the same IDE channel as a hard disk. Otherwise, the system performance on this channel may drop.





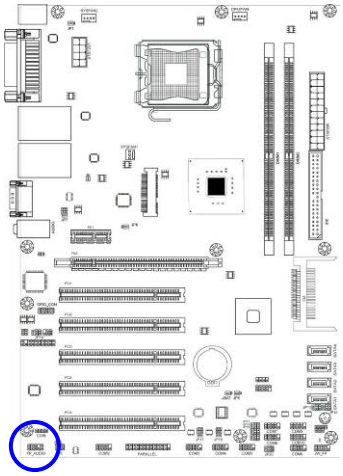
IDE Connector

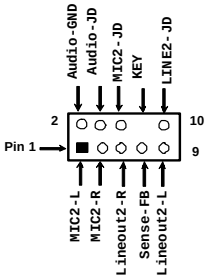


2-2-3 Header Pin Definition

(1) Line-Out/MIC Header for Front Panel (9-pin): FP_AUDIO

This header is connected to Front Panel Line-out, MIC connector with cable.

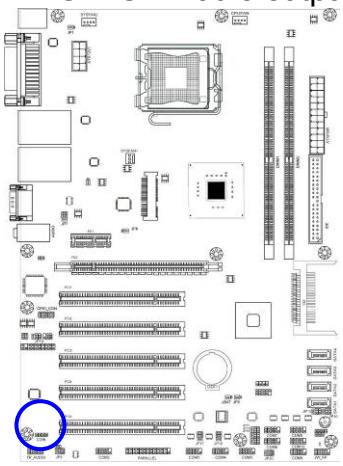


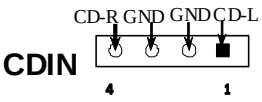


Line-Out, MIC Headers

(2) CD AUDIO-In Headers (4-pin): CDIN

CDIN are the connectors for CD-Audio Input signal. Please connect it to CD-ROM CD-Audio output connector.





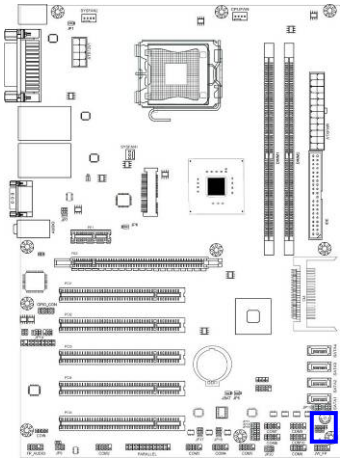
CD Audio-In Headers

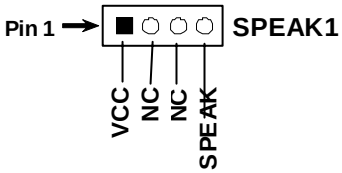
(3) Speaker connector: SPEAK

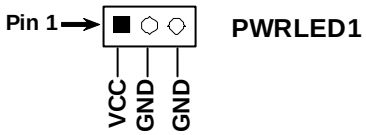
This 4-pin header connects to the case-mounted speaker. See the figure below.

(4) Power LED: PWR LED

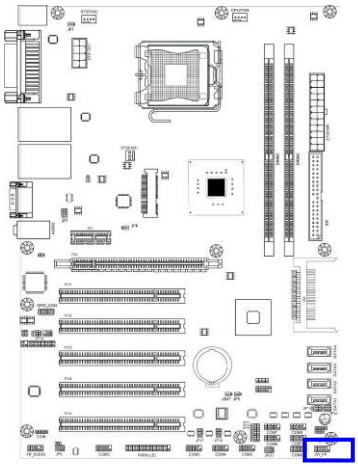
The Power LED header is light on while the system power is on. Connect the Power LED header from the system case to this pin.

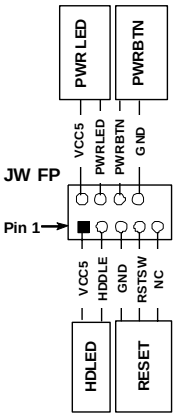




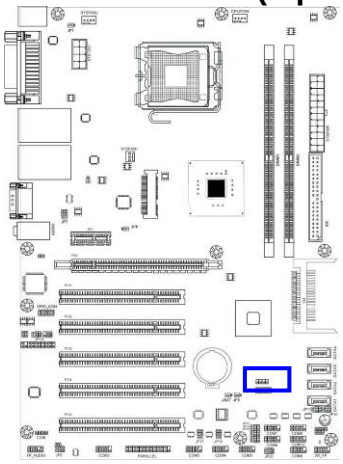


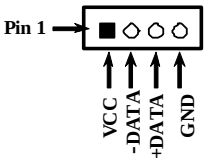
(5) Front Panel Header: JW-FP





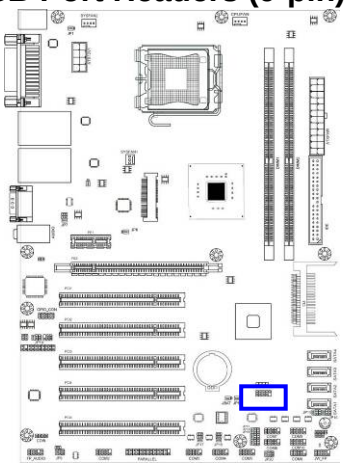
(6) USB Port Headers (4-pin): USB3

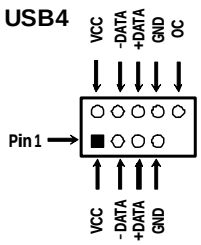




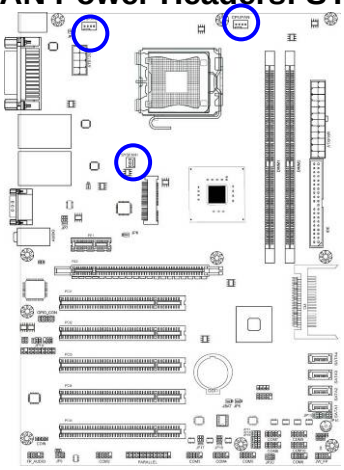
USB3 Header

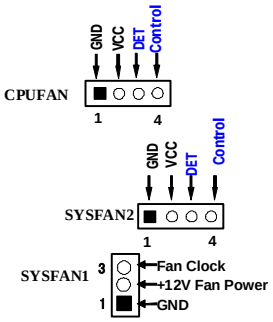
(7)USB Port Headers (9-pin): USB4





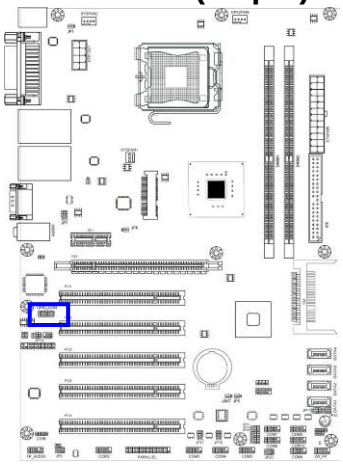
(8)FAN Power Headers: SYSFAN1(3-pin); SYSFAN2(4-pin); CPUFAN (4-pin)

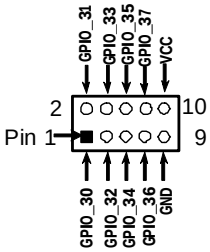




FAN Headers

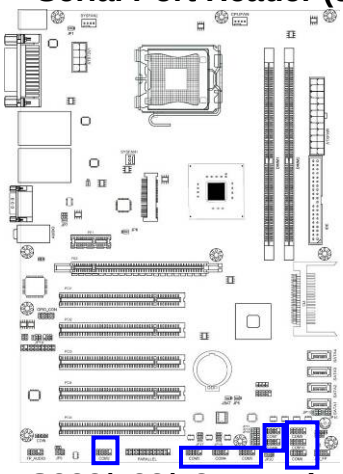
(9) GPIO Header (10-pin): GPIO_CON

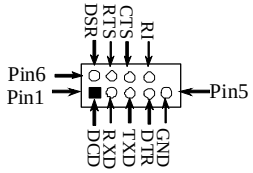




GPIO_CON Header

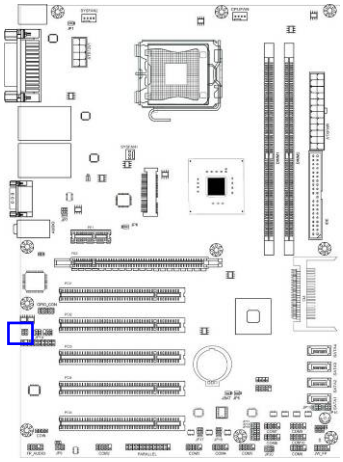
(10) Serial Port Header (9-Pin): COM2/3/4/5/6/7/8/9/10

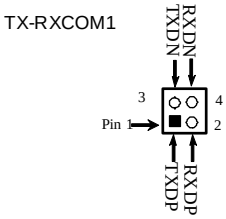




Serial COM Port 9-pin Block

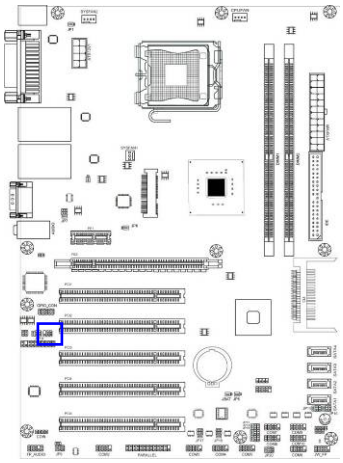
(11) RS232/422/485 Header (4-pin): TX-RXCOM1

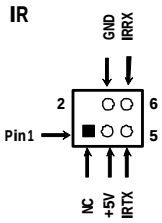




TX-RX Header

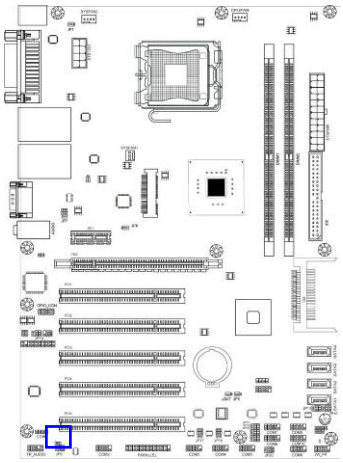
(12) Infrared module header (5-pin): IR

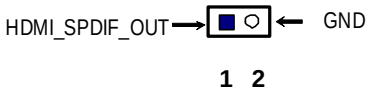




IR infrared module Header

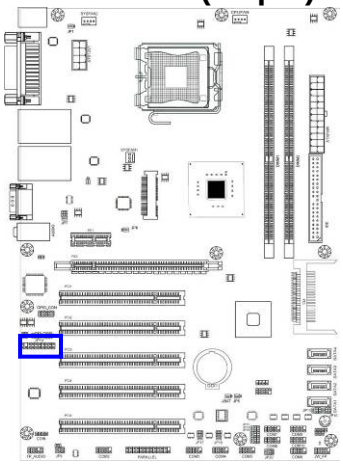
(13) HDMI-SPDIF Out header (2-pin): HDMI_SPDIF

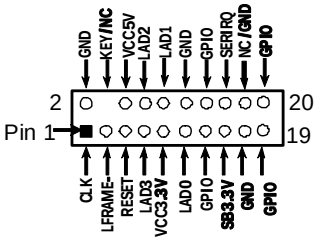




HDMI_SPDIF Header

(14) TPM Header (19-pin):TPM





TPM Header

Chapter 3
Introducing BIOS

Notice!	The BIOS options in this manual are for reference only. Different configurations may lead to difference in BIOS screen and BIOS screens in manuals are usually the first BIOS version when the board is released and may be different from your purchased motherboard. Users are welcome to download the latest BIOS version form our official website.

The BIOS is a program located on a Flash Memory on the motherboard. This program is a bridge between motherboard and operating system. When you start the computer, the BIOS program will gain control. The BIOS first operates an auto-diagnostic test called POST (power on self test) for all the necessary hardware, it detects the entire hardware device and configures the parameters of the hardware synchronization. Only when these tasks are completed done it gives up control of the computer to operating system (OS). Since the BIOS is the only channel for hardware and software to communicate, it is the key factor for system stability, and in ensuring that your system performance as its best.

In the BIOS Setup main menu of Figure 3-1, you can see several options. We will explain these options step by step in the following pages of this chapter, but let us first see a short description of the function keys you may use here:

- Press <Esc> to quit the BIOS Setup.
- Press ↑↓←→ (up, down, left, right) to choose, in the main menu, the option you want to confirm or to modify.
- Press Page Up/Page Down or +/– keys when you want to modify the BIOS parameters for the active option.

3-1 Entering Setup

Power on the computer and by pressing <Del> immediately allows you to enter Setup. If the message disappears before your respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the “RESET” button on the system case. You may also restart by simultaneously pressing <Ctrl>, <Alt> and <Delete> keys. If you do not press the keys at the correct time and the system does not boot, an error message will be displayed and you will again be asked to

Press <Del> to enter Setup

3-2 Getting Help

Main Menu

The on-line description of the highlighted setup function is displayed at the bottom of the screen.

Status Page Setup Menu/Option Page Setup Menu

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window, press <Esc>.

3-3 The Main Menu

Once you enter AMI ® BIOS CMOS Setup Utility, the Main Menu (Figure 3-1) will appear on the screen. The Main Menu allows you to select from fourteen setup functions and two exit choices. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

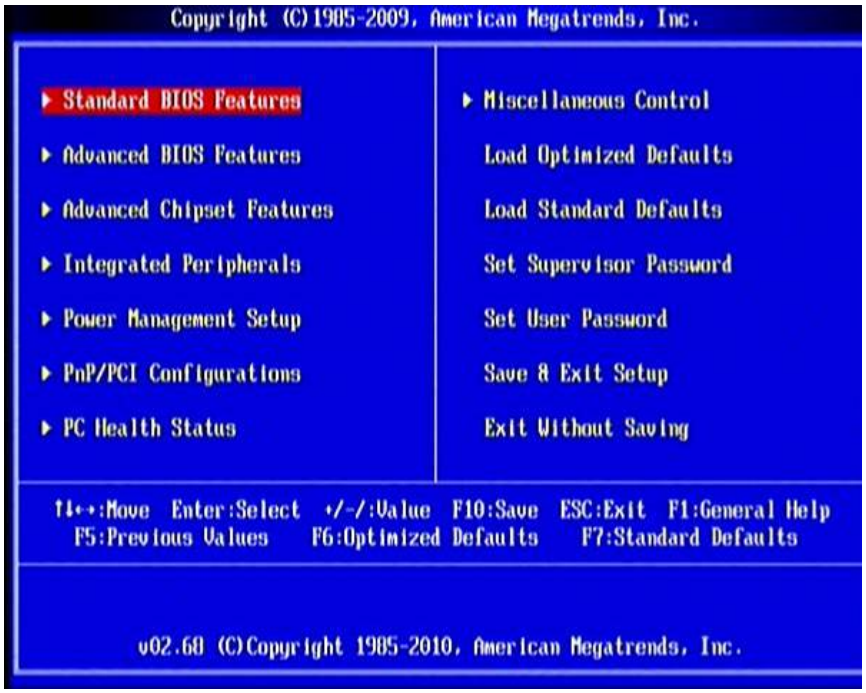


Figure 3-1

Standard BIOS Features

Use this Menu for basic system configurations.

Advanced BIOS Features

Use this menu to set the Advanced Features available on your system.

Advanced Chipset Features

Use this menu to change the values in the chipset registers and optimize your system's performance.

Integrated Peripherals

Use this menu to specify your settings for integrated peripherals.

Power Management Setup

Use this menu to specify your settings for power management.

PnP/PCI Configurations

Use this menu to specify your settings for PnP and PCI configurations.

PC Health Status

This entry shows your PC health status.

Miscellaneous Control

Use this menu to specify your settings for Miscellaneous Control.

Load Optimized Defaults

Use this menu to load the BIOS default values these are setting for optimal performances system operations for performance use.

Load Standard Defaults

Use this menu to load the BIOS default values for the minimal/stable performance system operation

Set Supervisor Password

Use this menu to set supervisor password.

Set User Password

Use this menu to set user password.

Save & Exit Setup

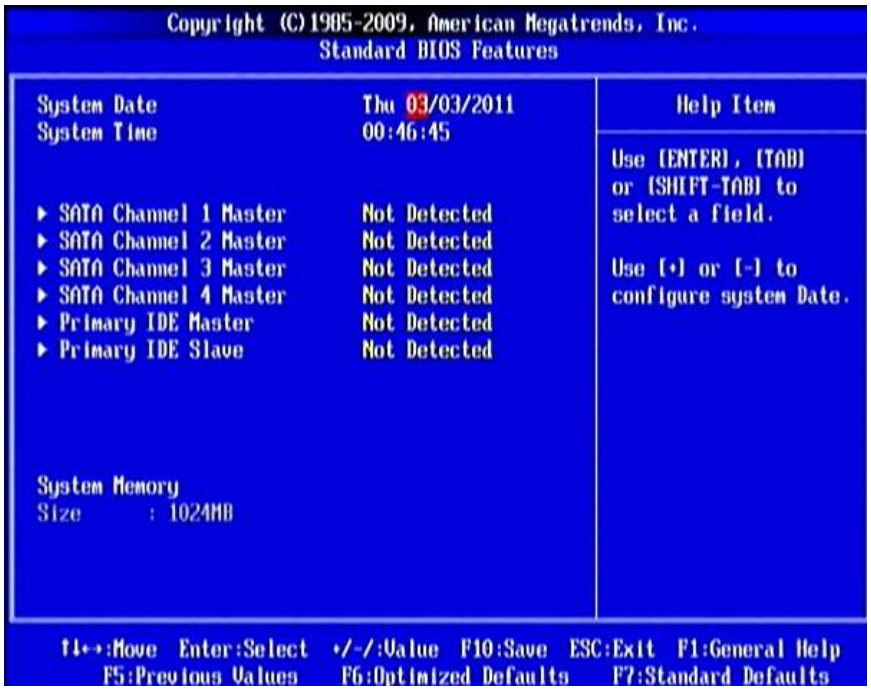
Save CMOS value changes to CMOS and exit setup.

Exit Without Saving

Abandon all CMOS value changes and exit setup.

3-4 Standard BIOS Features

The items in Standard CMOS Setup Menu are divided into several categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.



System Date

The date format is <day><month><date><year>.

Day Day of the week is from Sun to Sat, determined by BIOS. Read-only.

Month The month is from Jan. through Dec.

Date The date from 1 to 31 can be keyed by numeric function keys.
Year The year depends on the year of the BIOS.

System Time
The time format is <hour><minute><second>.

SATA Channel 1/2/3/4 Master

Primary IDE Master/Slave
While entering setup, BIOS auto detects the presence of harddisk devices. This displays the status of auto detection of harddisk devices.

Type: The optional settings are: Not Installed; Auto; CD/DVD and ARMD.

LBA/Large Mode: The optional settings are Auto; Disabled.

Block (Multi-Sector Transfer): The optional settings are: Disabled and Auto.

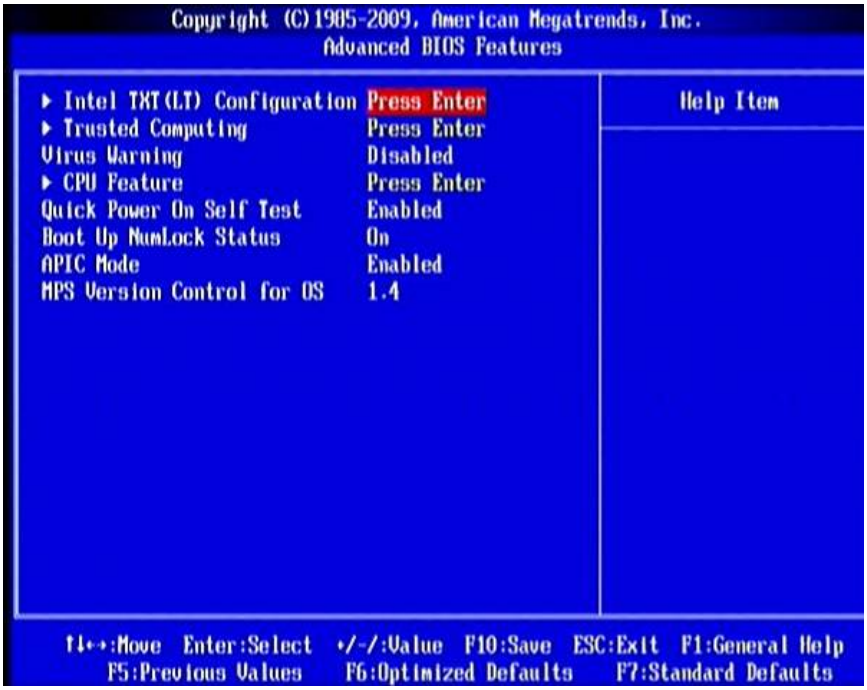
PIO Mode: the optional settings are: Auto, 0, 1, 2, 3 and 4.

DMA MODE: the optional settings are Auto, SWDMAn, MWDMAn , UDMAn.

S.M.A.R.T.: This option allows you to enable the HDD S.M.A.R.T Capability (Self-Monitoring, Analysis and Reporting Technology). The optional settings are Auto; Disabled; and Enabled.

32 Bit Data Transfer: the optional settings are: Disabled and Enabled.

3-5 Advanced BIOS Features


Copyright (C)1905-2009, American Megatrends, Inc.
Advanced BIOS Features
Intel TXT(LT) Configuration Press Enter
Trusted Computing Press Enter
Virus Warning Disabled
CPU Feature Press Enter
Quick Power On Self Test Enabled
Boot Up NumLock Status On
APIC Mode Enabled
MPS Version Control for OS 1.4
Help Item
↑↓↔:Move Enter:Select +/-/:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Optimized Defaults F7:Standard Defaults

Intel TXT(LT) Configuration
Press [Enter] to configure Intel TXT(LT) parameters.

Trusted Computing
Press [Enter] to configure settings related to trusted computing innovations.

Virus Warning
The selection Allow you to choose the VIRUS Warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep.

Disabled (default) No warning message to appear when anything attempts to access the boot sector or hard disk partition table.

Enabled Activates automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector of hard disk partition table.

Quick Power On Self Test

This item allows BIOS to skip certain tests while booting. This will decrease the time needed to boot the system. The optional settings: Disabled; Enabled.

Boot Up NumLock Status

The default value is On.

On (default) Keypad is numeric keys.

Off Keypad is arrow keys.

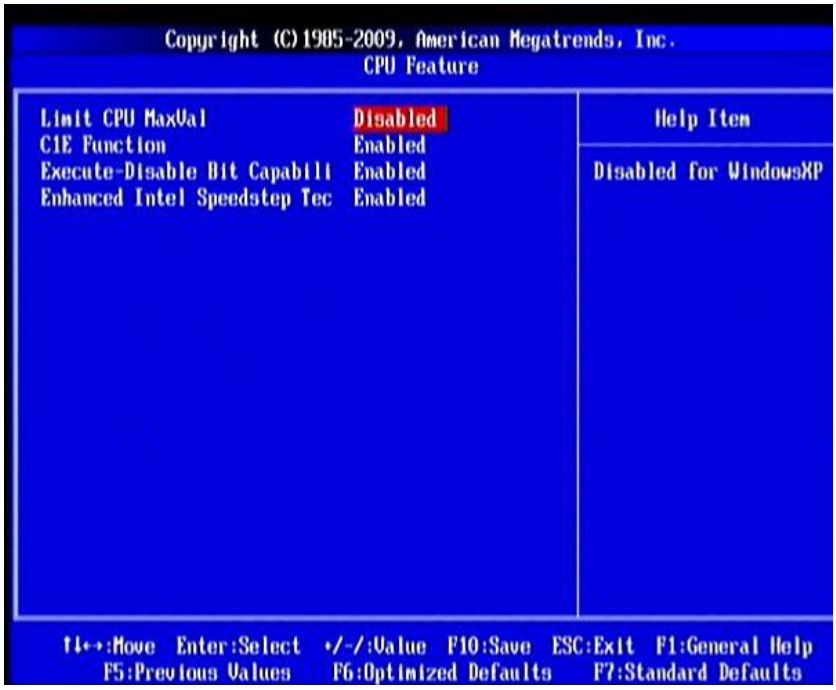
APIC Mode

Use this item to include ACPI APIC table pointer to ESDT pointer list. The optional settings are: Disabled; Enabled.

MPS Version Control for OS

This option is only valid for multiprocessor motherboards as it specifies the version of The Multiprocessor Specification (MPS) that the motherboard will use.

3-5-1 CPU Feature



Limit CPU MaxUal

The optional settings are: Disabled; Enabled. Set is as [Disabled] for Windows XP.

CIE Support

The optional settings are Enabled and Disable.

Execute Disable Bit Capabill

The optional settings are: Disabled; Enabled. When disabled, force the XD feature Flag to always return 0.

Enhanced Intel S[eed Tec

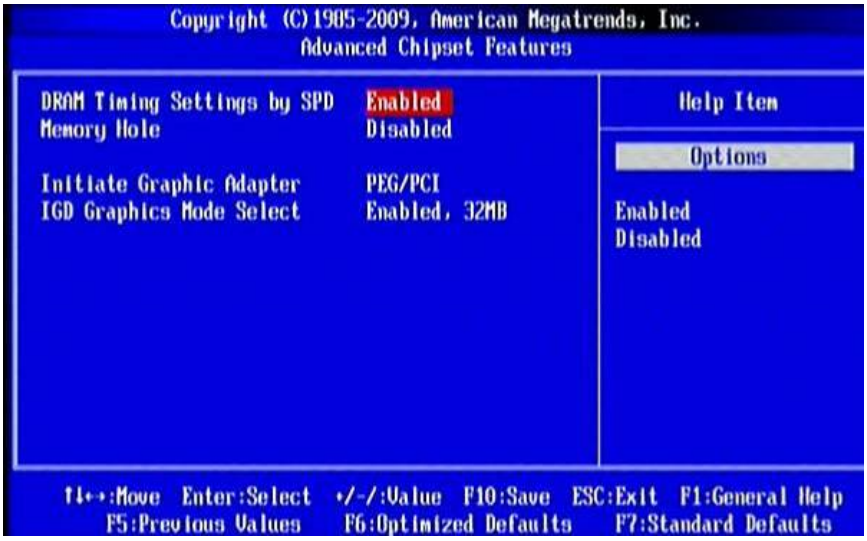
The optional settings are Enabled and Disable.

Disabled: to disable CV3;

Enabled: to enable CV3.

3-6 Advanced Chipset Features

The Advanced Chipset Features Setup option is used to change the values of the chipset registers. These registers control most of the system options in the computer.



DRAM Timing Settings by SPD

The optional settings are: Disabled; Enabled.

Memory Hole

The optional settings are: Disabled; 15MB-16MB.

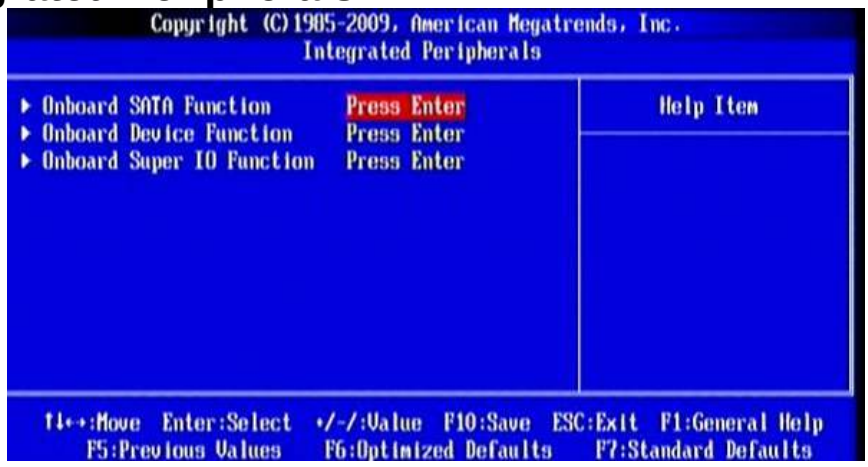
Initate Graphic Adapter

Use this item to select which graphic controller to use as the primary boot device.

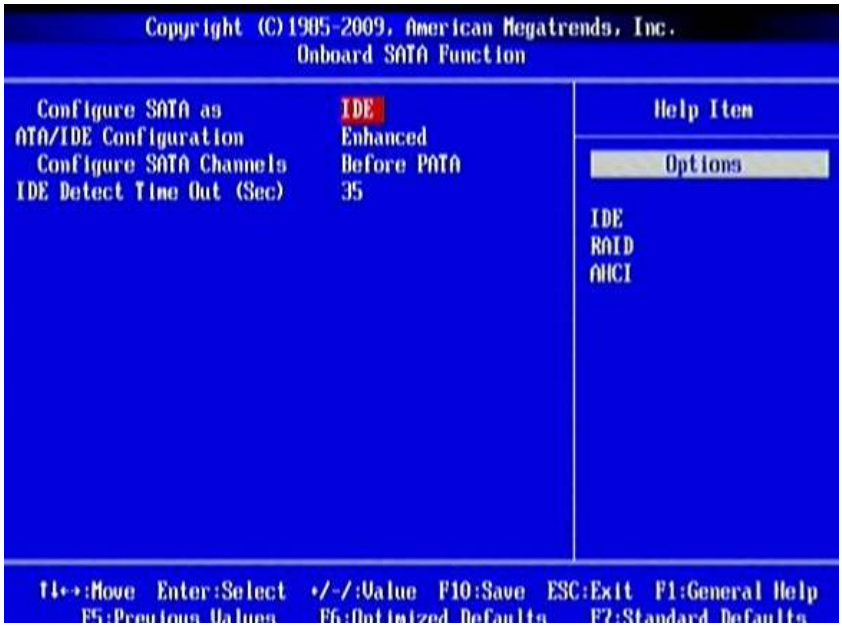
IGD Mode Select

Use this item to select the amount of system memory used by the internal graphics device.

3-7 Integrated Peripherals


Copyright (C)1985-2009, American Megatrends, Inc.
Integrated Peripherals
▸ Onboard SATA Function Press Enter
▸ Onboard Device Function Press Enter
▸ Onboard Super IO Function Press Enter
Help Item
↑↓↔:Move Enter:Select +/-/:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Optimized Defaults F7:Standard Defaults

3-7-1 Onboard SATA Function



Configure SATA as

The optional settings are: IDE; RAID; AHCI.

***Note:** RAID and AHCI modes are only optional for motherboard with ICH7R chipset.*

ATA/IDE Configuration

The optional settings are: Disabled; Compatible; Enhanced.

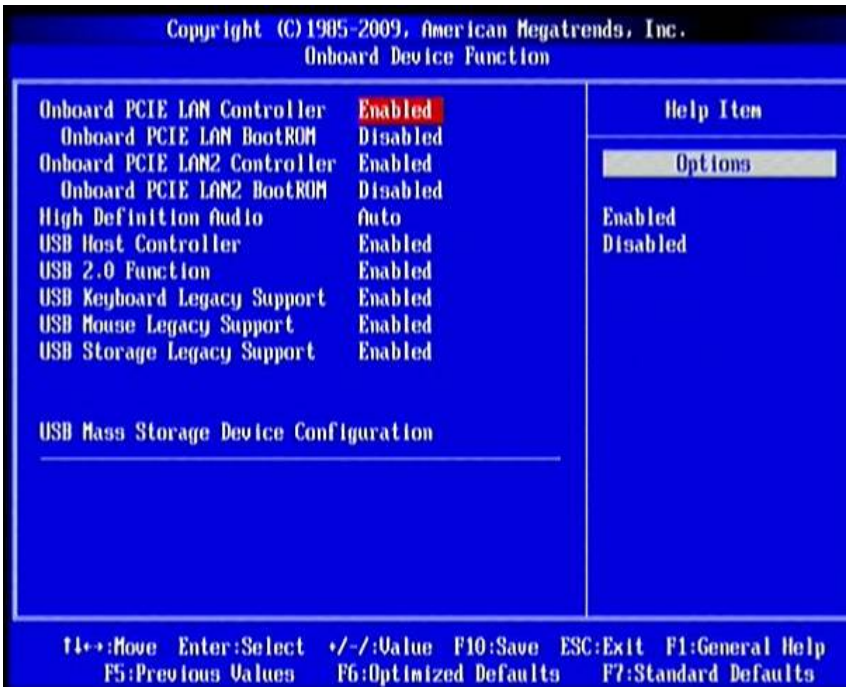
Configure SATA Channels

The optional settings are: Before PATA; Behind PATA.

IDE Detect Time Out(Sec)

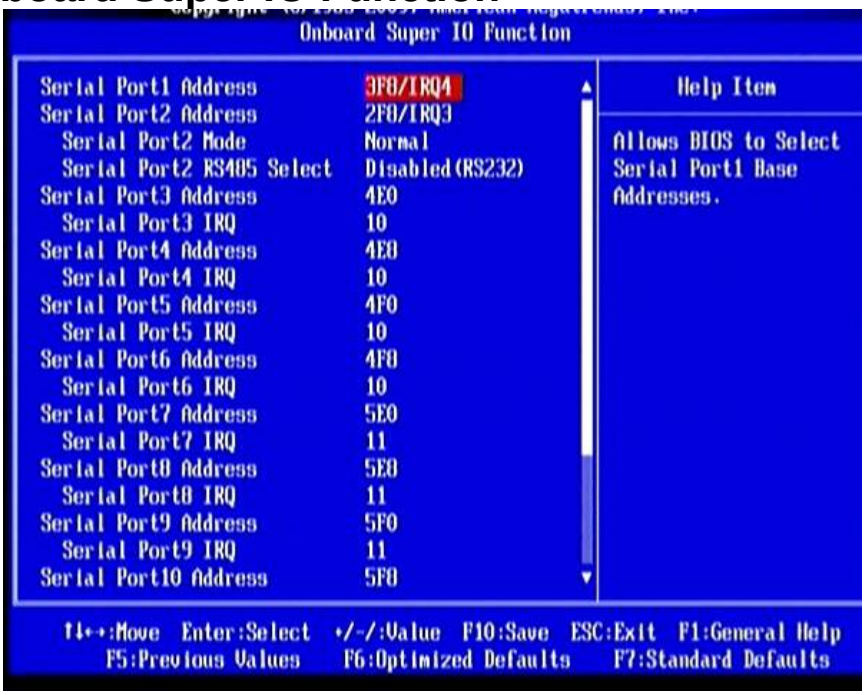
Use this item to select the time out value for detecting ATA/ATAPI device(s).

3-7-2 Onboard Device Function


Copyright (C)1985-2009, American Megatrends, Inc.
Onboard Device Function
Onboard PCIE LAN Controller Enabled
Onboard PCIE LAN BootROM Disabled
Onboard PCIE LAN2 Controller Enabled
Onboard PCIE LAN2 BootROM Disabled
High Definition Audio Auto
USB Host Controller Enabled
USB 2.0 Function Enabled
USB Keyboard Legacy Support Enabled
USB Mouse Legacy Support Enabled
USB Storage Legacy Support Enabled
USB Mass Storage Device Configuration
Help Item
Options
Enabled
Disabled
↑↓↔:Move Enter:Select +/-/:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Optimized Defaults F7:Standard Defaults

Onboard PCIE LAN/ PCIE LAN 2 Controller
The optional settings are: Enabled; Disabled.
Onboard PCIE LAN/ PCIE LAN 2 BootROM
The optional settings are: Enabled; Disabled.
High Definition Audio
This item allows you to decide to auto /disable the chipset family to support HD Audio. The settings are: Auto, Disabled.
USB Host Controller
The optional settings are: Enabled; Disabled.
USB 2.0 Function
The optional settings are: Enabled; Disabled.
USB Keyboard Legacy/Mouse Legacy /Storage Legacy Support
Select enabled if your system contains a Universal Serial Bus (USB) controller and you have a USB mouse /keyboard/USB storage device. The settings are: Enabled, Disabled.

3-7-3 Onboard Super IO Function


Onboard Super IO Function
Serial Port1 Address 3F8/IRQ4
Serial Port2 Address 2F8/IRQ3
Serial Port2 Mode Normal
Serial Port2 RS485 Select Disabled(RS232)
Serial Port3 Address 4E0
Serial Port3 IRQ 10
Serial Port4 Address 4E8
Serial Port4 IRQ 10
Serial Port5 Address 4F0
Serial Port5 IRQ 10
Serial Port6 Address 4F8
Serial Port6 IRQ 10
Serial Port7 Address 5E0
Serial Port7 IRQ 11
Serial Port8 Address 5E8
Serial Port8 IRQ 11
Serial Port9 Address 5F0
Serial Port9 IRQ 11
Serial Port10 Address 5F8
Help Item
Allows BIOS to Select Serial Port1 Base Addresses.
↑↓↔:Move Enter:Select +/-/:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Optimized Defaults F7:Standard Defaults

Slide down to view more:

Serial Port9 IRQ 11
Serial Port10 Address 5F8
Serial Port10 IRQ 11
Parallel Port Address 378
Parallel Port Mode Normal
WatchDog Timer Control Enabled
WatchDog Timer Val 10
WatchDog Timer Unit Sec.
↑↓↔:Move Enter:Select +/-/:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Optimized Defaults F7:Standard Defaults

Serial Port 1/2/3/4/5/6/7/8/9/10 Address

This item allows BIOS to select base addresses for serial ports.

Serial Port 3/4/5/6/7/8/9/10 IRQ

This item allows BIOS to select serial port IRQ.

Serial Port 2 Mode

The optional settings are：Normal; IrDA(1.6us); IrDA(3/16 bit).

Serial Port 2 RS485 Select

The optional settings are：Disabled(RS232); Enabled(RS485).

Parallel Port Address

Use this item to allow BIOS to select parallel port base adresses.

Parallel Port Mode

The optional settings are: Normal; Bi-Directional; ECP; EPP; ECP & EPP.

Watchdog Timer Select

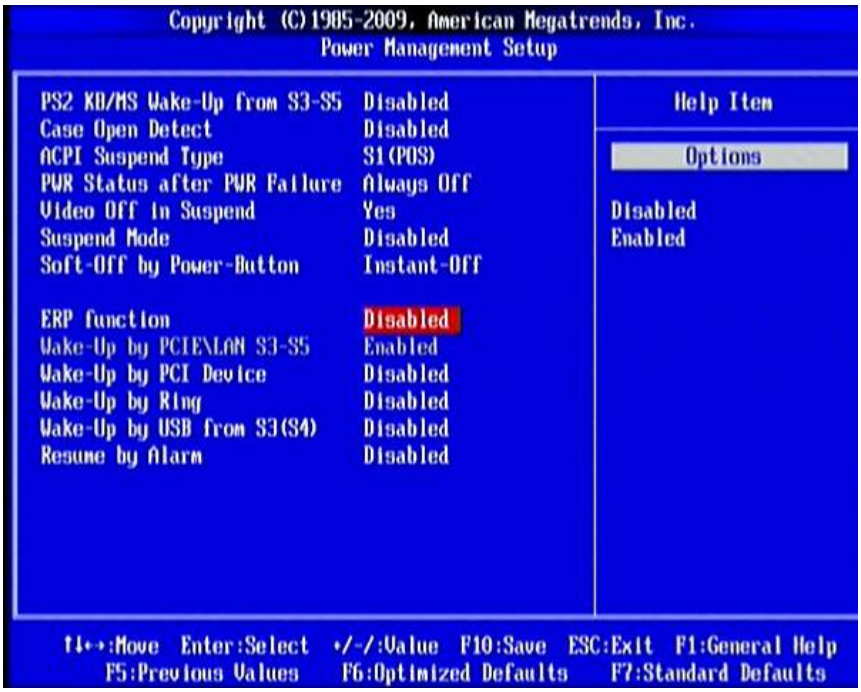
This item is used to activate the watchdog function. The optional settings are: Enabled; Disabled.

When set as Enabled, The following sub-items shall appear:

- **WatchDog Timer Val:** User can type a number in the range of 4 to 255.
- **WatchDog Timer Unit:** The optional settings are: Sec.; Min..

3-8 Power Management Setup

The Power Management Setup allows you to configure your system to most effectively save energy saving while operating in a manner consistent with your own style of computer use.


Copyright (C)1985-2009, American Megatrends, Inc.
Power Management Setup
PS2 KB/MS Wake-Up from S3-S5 Disabled
Case Open Detect Disabled
ACPI Suspend Type S1(POS)
PWR Status after PWR Failure Always Off
Video Off in Suspend Yes
Suspend Mode Disabled
Soft-Off by Power-Button Instant-Off
ERP function Disabled
Wake-Up by PCIE\LAN S3-S5 Enabled
Wake-Up by PCI Device Disabled
Wake-Up by Ring Disabled
Wake-Up by USB from S3(S4) Disabled
Resume by Alarm Disabled
Help Item
Options
Disabled
Enabled
↑↓→←:Move Enter:Select +/-/:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Optimized Defaults F7:Standard Defaults

PS2 KB/MS Wake-Up from S3-S5

The optional settings: Disabled; Enabled..

Case Open Detect

The optional settings: Disabled; Enabled..

ACPI Suspend Type
Users can select the ACPI state used for system suspend. The optional settings are: S1(POS); S3(STR).
Video Off In Suspend
Use this item to power down video in Suspend or Standby mode.
Suspend Mode
Use this item to select the specified time for system to go into suspend.
Soft-Off by Power-Button
Use this item to go into On/Off or Suspend when power button is pressed.
ERP Function
The optional settings are: Enabled; Disabled. When set as [Disabled], the following sub-items shall appear:
Wake-Up by PCIE\LAN S3-S5; Wake-Up by PCI Device; Power On by Ring; Wake Up by USB from S3(S4); Resume by Alarm.
User can set them as Enabled or Disable for to enable or disable respective functions.
PWR Status after PWR Failure
The optional settings are: Always Off; Always On; Former Status.

Notice!	**'PWR Status after PWR Failure'** is synchronic with **'ERP Function'**. User need to set **'ERP Function'** item as **[Disabled]** for **'PWR Status after PWR Failure'** to show up.

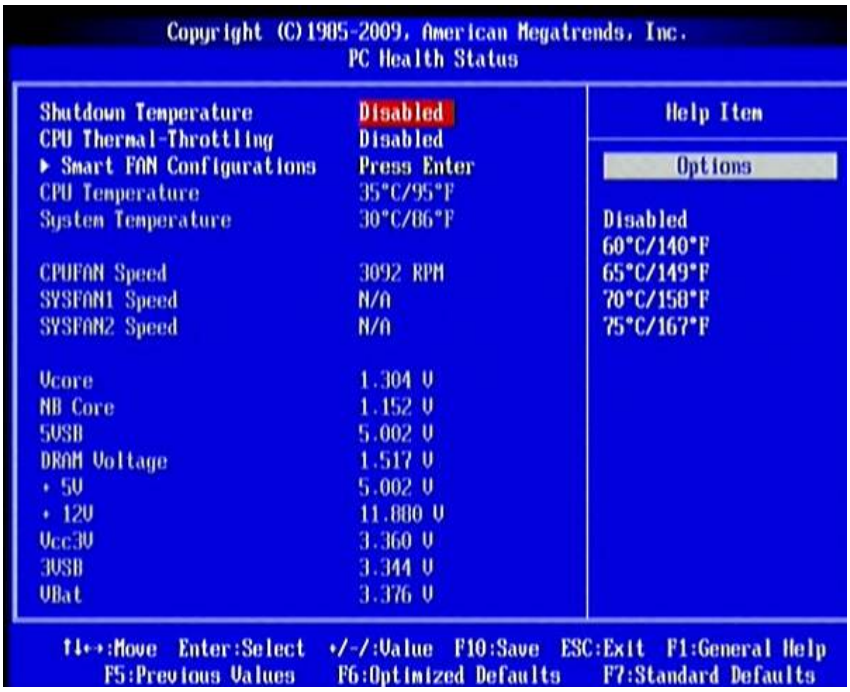
3-9 PnP/PCI Configurations

IRQ Resources
Press [Enter] to view IRQ availability.
Available: Specified IRQ is available to be used by PCI/PnP devices.
Reserved: Specified IRQ is reserved for use by legacy ISA devices.
PCI/VGA Palette Snoop
The optional settings are: Enabled; Disabled.
Enabled: to inform the PCI devices that an ISA graphics device is installed in the

system so the card will function correctly.

3-10 PC Health Status

This section shows the Status of you CPU, Fan, and Warning for overall system status. This is only available if there is Hardware Monitor onboard.



Shutdown Temperature

This item can let users setting the Shutdown temperature, when CPU temperature over this setting the system will auto shutdown to protect CPU.

CPU Thermal Throttling

The optional settings are: Disabled; Enabled. When it is set as [Enabled] user could set value for CPU Thermal-Throttling Temp.; CPU Thermal-Throttling Duty and CPU Thermal-Throttling Beep.

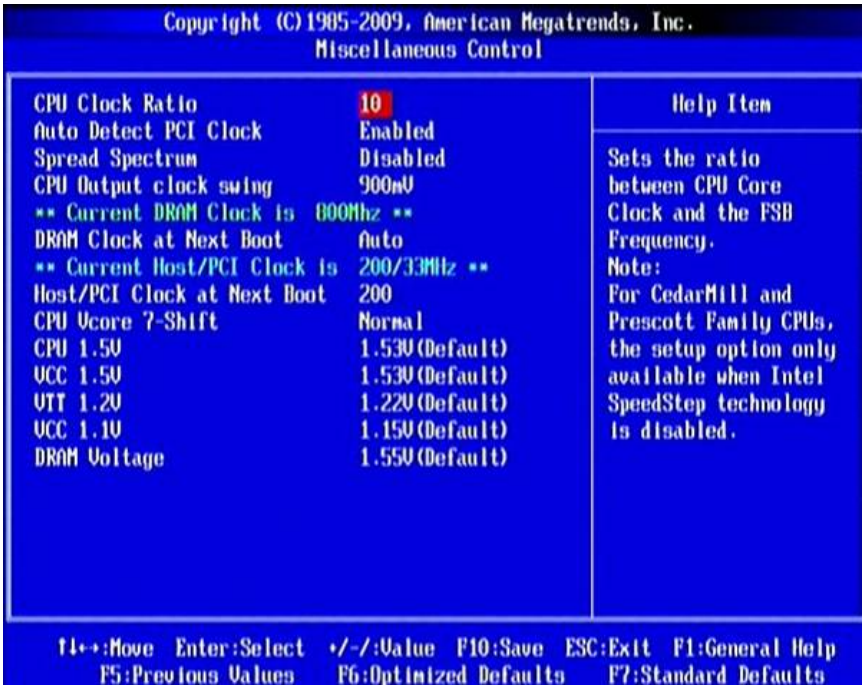
Smart Fan Configuration

Press [Enter]to set certain values for the following three items: CPUFAN Smart Mode , SYSFAN1 Smart Mode and SYSFAN2 Smart Mode to set respectively for value in Full-Speed Temp.; Idle Temp. and Idle-Speed Duty .

CPU Temperature/ System Temperature/ /CPUFAN Speed / SYSFAN1 Speed /SYSFAN2 Speed/ Vcore/NB Core/ 5VSB/DRAM Voltage+5V/+12V/Vcc3V/ 3VSB/VBat

This will show the CPU/FAN/System voltage chart and FAN Speed, etc.

3-11 Miscellaneous Control


Copyright (C)1985-2009, American Megatrends, Inc.
Miscellaneous Control
CPU Clock Ratio 10
Auto Detect PCI Clock Enabled
Spread Spectrum Disabled
CPU Output clock swing 900mV
** Current DRAM Clock is 800Mhz **
DRAM Clock at Next Boot Auto
** Current Host/PCI Clock is 200/33MHz **
Host/PCI Clock at Next Boot 200
CPU Vcore 7-Shift Normal
CPU 1.5V 1.53V(Default)
VCC 1.5V 1.53V(Default)
VTT 1.2V 1.22V(Default)
VCC 1.1V 1.15V(Default)
DRAM Voltage 1.55V(Default)
Help Item
Sets the ratio between CPU Core Clock and the FSB Frequency.
Note:
For CedarMill and Prescott Family CPUs, the setup option only available when Intel SpeedStep technology is disabled.
↑↓↔:Move Enter:Select +/-/:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Optimized Defaults F7:Standard Defaults

CPU Clock Ratio

Use this item to set the ratio between CPU core clock and FSB frequency.

Auto Detect PCI Clock

The optional settings are: Enabled; Disabled.

Spread Spectrum

The optional settings are: Enabled; Disabled.

CPU Output Clock Swing

Select a value for CPU output clock swing in the setting range of 700mV to 1400mV.

DRAM Clock at Next Boot

This item allows you to set DRAM clock.

Host/PCI Clock at Next Boot

The optional settings are from 200 to 600.

CPU Vcore 7-Shift

Use this item to set value in CPU Vcore 7-Shift function.

Warning: Setting the value too high may cause system to malfunction.

CPU 1.5V

Press [Enter] to set a value for CPU 1.5V.

VCC 1.5V

Press [Enter] to set a value for VCC 1.5V.

VTT 1.2V

Press [Enter] to set a value for VTT 1.2V.

VCC 1.1V

Press [Enter] to set a value for VCC 1.1V.

DRAM Voltage

Use this item to set memory voltage.

Warning: Setting the value too high may cause system to malfunction.

3-12 Password Setting

You can set either supervisor or user password, or both of them. The differences are:

Supervisor password: Can enter and change the options of the setup menus.

User password: Can only enter but do not have the right to change the options of the setup menus. When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

ENTER PASSWORD:

Type the password, up to eight characters in length, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

To disable a password, just press <Enter> when you are prompted to enter the password. A message will confirm that the password will be disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

PASSWORD DISABLED.

When a password has been enabled, you will be prompted to enter it every time you try to enter Setup. This prevents an unauthorized person from changing any part of your system configuration.

Additionally, when a password is enabled, you can also require the BIOS to request a password every time your system is rebooted. This would prevent unauthorized use of your computer.

You determine when the password is required within the BIOS Features Setup Menu and its Security option. If the Security option is set to “System”, the password will be required both at boot and at entry to Setup. If set to “Setup”, prompting only occurs when trying to enter Setup.

3-13 Load Optimized /Standard Defaults

Load Optimized Defaults

When you press <Enter> on this item, you get a confirmation dialog box with a message similar to:

Pressing <OK> loads the default values that are factory settings for optimal performance system operations.

Load Standard Defaults

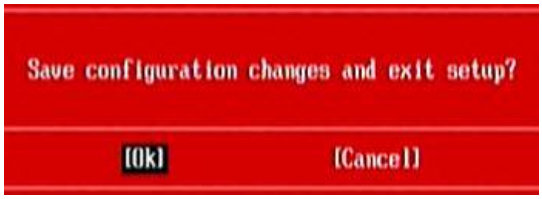
When you press <Enter> on this item, you get a confirmation dialog box with a message similar to:

Pressing <OK> loads the default values that are factory settings for stable performance system operations.

3-14 Save & Exit Setup/ Exit Without Saving

Save and Exit Setup

When you press <Enter> on this item, you get a confirmation dialog box with a message similar to:



Pressing <OK> save the values you made previously and exit BIOS setup.

Exit Without Saving

When you press <Enter> on this item, you get a confirmation dialog box with a message similar to:

Pressing <OK> to leave BIOS setting without saving previously set values.